

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. XCIX. — THURSDAY, AUGUST 22, 1878. — NO. 8.

LECTURES.

BOSTON CITY HOSPITAL: CLINICAL LECTURE NO. VII.

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Compound Fracture of Patella. — GENTLEMEN: As our first patient, I bring before you this young man merely to show you his injury. Last November he fell, and sustained a fracture of the patella. Simple fractures of this bone are common, but here we have a compound fracture, which is rare. The only other similar case which I have seen within the past four years was in a patient under the care of Dr. Thorndike, and so serious that amputation was advised. This, however, the man declined, but on account of destructive suppuration it was eventually done, and the patient died. In our case the wound is closed, the fragments of the bone are closely approximated, and, as they do not ride upon each other, are probably pretty firmly joined. The patient has constantly worn a ham splint. Under these conditions, the fragments being united, the point to decide is, When will it be safe to bend the knee? Ought we do it now? No, not even if it were a simple fracture, for it is only two months since the accident occurred, and consequently too soon to resort to passive motion. Cases of reseparation occur by too early motion. In this form of fracture bony union is so rare that some authorities deny its possibility. Bear in mind, too, that by the gradual traction of the muscles the fragments are very easily drawn apart. Quite recently Dr. Jackson showed me, at the museum, a specimen of a fractured patella, which had belonged to a man well known, who, after union had taken place, walked with ease. It was supposed to be a case of bony union. After death the bone was sawed apart, and it was found that the union was not bony, but purely ligamentous. This was an example of the repair in all fractures of the patella. Another reason why it would not be safe to bend this knee now is that synovitis still exists. It will therefore be better for the patient to wear his ham splint another month, coming in occasionally for a fresh dressing. At the end of that time we probably can begin passive motion without danger.

Dislocation of the Head of the Humerus.—The young man now being etherized was last night thrown out of a cart, and fell on his left shoulder, about which are some very characteristic symptoms, to which I wish to call your attention. Observe, first, that the shoulder has lost its normal roundness, instead of which we have this sharply pointed protuberance. Secondly, the deltoid muscle on this side is only a set of flat fibres, while on the other it is round and full. This projecting shelf is the acromion process of the scapula. I insert my finger beneath it, and find that the head of the humerus is gone, leaving an immense hollow. Another evidence of dislocation is that the elbow stands out from the body, and cannot easily be pushed to the ribs. An effective test is that when the hand of the dislocated arm is laid upon the opposite shoulder the elbow cannot be brought down to the thorax. Since the head of the bone is out of place, and the socket empty, what direction has the head taken? It may have gone downward and forward under the coracoid process, or it may have slipped into the armpit. I find it here under the coracoid, and can easily map out its contour. With my hand I can also grasp in a mass the deltoid muscle.

If the head of the bone were in the axilla I should not find this empty axillary space. The bone seems to be easily reduced, for I have only to apply a slight leverage beneath it, and pry, and it goes into its place. Now, without intention, I have created a luxation. The bone is out again. You thus see the very relaxing effects of ether. Previous to 1846 the united strength of several men, and even compound pulleys, were necessary in order to overcome the obstinate muscular contraction, which resisted all efforts to reduce dislocations. By means of ether, as you observe, the muscles are made perfectly quiescent and non-resisting. This bone was never before luxated, and yet its reduction is easy. This is unusual. Most cases offer more difficulty, but when a bone has been dislocated on several occasions it subsequently requires but little force to push it out of the socket. What are the methods of reduction? One is to sit beside the patient and place the foot, without the boot, in the axilla. Then draw the arm with force in a direction parallel with the body of the patient, at the same time pressing the foot firmly into the armpit. By this means the head of the bone is forced into its place. A second method is to lay the patient on the floor upon his back, and while the surgeon presses against the top of the shoulder with his foot he lifts the arm of the patient straight upward, and so draws the head into its socket. In a third process the patient's thorax is enveloped in a sheet, which is held by an assistant, in order to fix the scapula. The surgeon then draws the dislocated arm horizontally away from the body, and in a direction at right angles with its long axis, the assistant meanwhile pulling upon the sheet in an opposite direction. Finally, the dislocation can be reduced by bending

the elbow and using the forearm as a lever to rotate the head into place, the surgeon drawing and rotating with one hand and pushing up the head of the humerus with the other. There is one dislocation which cannot be easily reduced even under ether, and that is the luxation of the proximal phalanx of the thumb. It is extremely obstinate because the sesamoid bones and tendon become entangled around the head of the bone and so fix it firmly. We then may have to introduce a tenotomy knife subcutaneously and cut the resisting fibres, after which no further trouble is experienced.

What shall be our after-treatment in this case? The best method will be to place a pad in the axilla, bind the arm firmly to the side, and put the forearm in a sling. How long should this dressing be used? In some patients ten days will suffice, others will require more time. Sometimes the deltoid muscle cannot be used for weeks. When the patient attempts to put on his coat he finds he cannot do so because the deltoid will not contract without severe pain. In such a case let the patient wear the dressing for one week, and then remove it and exercise the arm, after which reapply the bandages, etc., for another week. Perhaps this may be enough. In dislocations, muscular and ligamentous fibres are often torn by the head of the bone. These must repair as in a sprain. Do not tell your patient, then, that all will be right in a few days when perhaps an entire month will be necessary to restore motion in the arm. In young men the injury caused by a dislocation is generally soon relieved, but in old subjects, especially in the winter months, at which time the weather seems to have a marked influence, the shoulder is apt to become stiff, the difficulty obstinate, and the arm useless, perhaps, for months.

Here let me ask you to observe that our patient is a type of those cases in which, under ether, choking occurs even while the tongue is forward against the teeth, and that the patient cannot get sufficient air. The remedy consists in lifting the cheek away from the teeth. This done, air will freely enter the mouth. We have now reduced the head of the humerus, and the shoulder, as you see, has regained its original roundness. Nothing remains to be done but to apply the dressing already described.

Disease of the Hip-Joint. — Our next cases are examples of hip disease. Most of these you have seen in the wards. In order, however, to illustrate the operation which I propose to do upon one of them I am going to show you others.

Here, for example, is a boy who has sinuses from hip disease. His health is so good that I am unwilling to operate. As he walks you see a perfect picture of the effects of hip disease. The points are, the manner of walking, the spinal curve, and the bend at the knee in compensation of this curve. The boy has had hip-joint disease for years, and the head

of the femur is out of its socket. These sinuses near the spine, at the sacro-iliac junction, would make me fear to operate, even if it were necessary, because there may be disease at some distant point of the pelvis, in which case an operation would do no good. Over the hip are numerous sinuses, — two open, and three closed, and much other mischief beside. All the characteristic symptoms are very evident, namely, the flat nates, the curve of the back, the throwing out of the hip, the lateral broadening of the pelvis, and the contracted knee on the diseased side. Observe, too, the difference between the two groins. On the healthy side the groin has the smooth fissure which is normal. On the other the groove is effaced and filled up by solid effusion. Another point is that when the patient is on his back he can straighten the sound but not the unsound leg. An unusual exception here is that the child can turn out the toes of the lame leg. I regret that I cannot show you a case with the early symptoms, but will use this one as far as it can be made to go.

When the boy is placed on his back, the spine does not come down to the table, neither does the popliteal space of the diseased limb. You will notice, then, that there are two large curves, one under the back, the other beneath the knee. When I grasp the child's pelvis with my thumb on the tuberosity of the ischium and the tips of my fingers on the anterior superior spinous process of the ilium of the unsound side, and, holding the pelvis firmly, attempt to move the leg upon it, I find that leg and pelvis are consolidated into one piece, and move together. There is no joint, and at the hip the leg is immovable. When I repeat this experiment on the sound side, holding the pelvis perfectly still, the leg can be moved in all directions.

Another diagnostic point is to determine whether the head of the femur is out of the socket. We accomplish this by means of "Nélaton's test," namely, by a line drawn from the anterior superior spinous process of the ilium to the tuberosity of the ischium. The test is the relation of this line to the great trochanter. On the sound side you will notice that the tape passes directly over the head or top of this eminence, while on the diseased side, as you can easily see, the head of the trochanter is one half to three quarters of an inch above the tape, and consequently is just so much higher than the trochanter of the healthy side. This proves that the head is above the socket.

In a spontaneous cure of hip disease by dislocation and false joint we have *inverted* toes. In artificial cure, by resection, the joint is made more movable and the toes can be *everted*. But here we have one of those rare and exceptional cases in which the foot is turned out. With the exception of the ankylosed joint everything about the leg seems in fair condition. I say, then, — if only the sinuses get well, — that the boy has as good a leg as any surgeon can give him. He is in robust

health, and if it were not for the sinuses, in regard to which I have expressed a fear of future trouble, I should feel satisfied with the patient's condition.

Resection of the Head of the Femur.—This little girl, aged nine years, also has hip disease. In the latter part of April, or nine months ago, she began to have pain in the left hip and knee, and also to be lame. Her parents took her to Dr. Bradford, who put on an extension splint, which she wore until she came into the hospital, on the 22d of December, one month ago to-day. On entering she complained of pain and loss of appetite. The history being that of a disease which has existed nine months, and for which she has worn a good splint, what induced her parents to bring the child to us? Because she was running down, and because the treatment by splint having failed to relieve the pain, they wished to know if something else could not be done. We put the patient in bed, and, removing the splint, substituted extension by means of a weight. This change in treatment did no good, and the pain continued. The child is not much emaciated. This excoriation on the leg is the result of walking while she wore extension plaster on the leg. In walking the plaster became warm and moist, and thus excoriated the flesh. In bed this would not happen, and although the trouble is not serious, it is annoying to a sick child. I now show you the hip. Its normal appearance has been replaced by this large swelling, which is covered by large veins, and extends down the thigh. The tissues which confine it are growing thin and red, and it is evidently a cold abscess in connection with the joint. If left to itself in a few days it would break spontaneously. When we compare the two joints we see a marked difference between them. Notwithstanding there is no ankylosis at the affected joint, there is much less freedom of motion than exists on the sound side. In this case, too, there is especial difficulty in abducting the lame leg. The fibres of the abductor and the gracilis muscles of this leg are tense as a bowstring, while on the other side they are soft and pliable. This contracted condition of the muscles is a help which nature offers to protect the joint from motion. We find here, then, abscess, lameness, and an affection of the hip-joint, none of which has been helped either by treatment or by rest in bed. Here is no dislocation. The head of the bone is in its socket, as is shown by comparing the length of the two legs. One way of measuring is to take the length from the anterior superior spinous process of the ilium to the inner malleolus. By another we measure from the umbilicus to the malleolus. These measurements are almost always deceptive, and accuracy can be secured only by taking the mean of several measurements; but here we find absolute symmetry in the length of the two limbs. Nélaton's test also shows that the head of the femur is not out of the socket, and that the two great trochanters are exactly in line

with each other. The other signs, namely, flat nates, etc., are significant. On moving the joint I also detect a slight grating sensation. This symptom is sometimes absent, even though the periosteum be eaten away, because the head of the bone may lie in a bed of granulations, which prevent crepitus. I have advised the parents that it is an imperative necessity to open the abscess, and that afterward we shall probably be obliged to perform resection of the femur. The abscess must have started in the capsule of the joint, and is now injuring the acetabulum, so that the sooner it is opened the better. It would inevitably break in a few days.

It is desirable to incise as near the upper limit of the abscess as is possible, in order that we may be able to probe still higher to examine the joint. I now lay open the swelling, and pus containing flakes of lymph, and thin and scrofulous in character, flows freely. After incising the abscess it is sometimes difficult to find an opening into the joint. In this case, however, my probe passes easily, and shows that the abscess extends even higher than the joint. I now propose to open the joint, for I am positive that I feel grating, and consequently the operation is justifiable. But in order to avoid loss of blood or check hæmorrhage I will first pack this cavity with sponges. In performing excision here, my intention is to make a free opening with a large flap, which will not become closed. In this operation there is usually but little more shock than in opening the abscess. But the child is not strong, we therefore inject brandy and water — one ounce of each — into the rectum.

We now place the child on her sound side. I always excise the hip by a V-shaped incision, the point of the V being over the great trochanter. This flap is turned up, and the joint opened by a series of semicircular cuts above and half round the trochanter, and over the neck of the femur. Deepening the incision I find the head of the bone in the socket, but carious, partly absorbed, and thoroughly diseased.

It is rather more difficult to do this operation when the bone is in than when out of the socket. In this, as in every similar case, when you get into the joint you are surprised to see the amount of disease which did not appear externally. Having fully exposed and dislocated the head of the bone, I remove a section of it by means of the chain saw; and now, stuffing the cavity with sponges, to arrest hæmorrhage, I wait a little to allow the child to rally, after which I shall explore the acetabulum, and examine the shaft of the bone to see if there be any more disease. Thus far the patient has not lost more than an ounce and a half of blood. In a case like this, when we have to open an abscess, I think it better to do resection at the same time. The increase of shock is but trifling, and the double operation gives the patient a better chance, as we proved last fall in a case in which on one day I

opened the abscess, and on a subsequent day performed resection. The child did not do well. I consider it the best practice not only to keep the wound open, but to strap the flap up out of the way. We can then syringe and dress the part with great ease and convenience; whereas, if we let the flap fall upon the wound, pus would at once begin to burrow. The child, having had another injection of brandy and water, has rallied a little. We now empty the cavity of the abscess of the sponges, and so allow drainage from a second point. I search for the opening from the abscess into the joint, and aided by the superior incision, without which it would be difficult to find it, my probe discovers the aperture, and passes through it without difficulty. The acetabulum is fairly healthy, the shaft of the bone somewhat exfoliated. For present treatment we put an oiled rag into the cavity of the wound and pack in sponges, which will be allowed to remain twenty-four hours, or until all chance of hæmorrhage is over. The patient will be placed in bed, and extension applied.

(Three days later.) The case terminated fatally to-day. The patient did badly under ether, but these hip cases bear so much in the way of shock that I hoped she would do well afterwards. After the operation she vomited constantly, and could not retain any food given by the mouth. We therefore administered strong nutriment by the rectum, but there was evidently no absorption, and she died vomiting and unnourished.

The direct cause of death was prolonged shock. Now the question is, What would have happened if we had not operated? Remember the condition of the patient and the hip, the very large abscess, and the thin, serofulous pus. If the abscess had opened spontaneously, the child would have been very sick. So would she if the abscess alone had been artificially opened. Besides, the disease was very extensive; so much so that the operation was imperative. In this case the head of the bone being in the socket it took very much longer to dislocate and excise it than if the disease had been in a more advanced stage, and the head on the dorsum of the ilium. In the latter condition removal of the head of the bone is really not excision of a joint.

This is the only case we have lost within a year, for in hip disease we usually have a very good success.

FLOATING SPLEEN.¹

BY FREDERICK C. SHATTUCK, M. D.

A CASE of this condition which came under my care led me to look into the subject, and to think that my results might prove of some interest, especially to physicians of this neighborhood, the great immunity of which from malarial influences renders affections of the spleen comparatively rare.

July 26, 1877, I was called to a young man, a baker by trade. His family history was good, and he had never been laid up before by sickness, so far as he could remember. Was born in Boston, and had always lived here with the exception of two or three years (1873-75), which he passed near the eastern end of the Hoosac Tunnel, a region in which, I am informed, malaria is not unknown. He had never suffered from chills and fever, had never done any heavy lifting, or had any fall or injury of consequence.

July 14th, went to bed and to sleep as usual, but was awakened during the night by severe pain in the left hypochondriac region, and then discovered for the first time that he had a tumor in his abdomen. He described the pain as having been very sharp, as having drawn him down on the left side, and as having been aggravated by deep inspiration or by flexing the left thigh on the body. By July 19th the pain left him, and he resumed work, but had a fresh access during the night of the 21st, and again during that of the 22d. A physician was then called in, who enjoined close confinement to bed.

I found him in bed, without fever or any subjective symptom, but with a prominence of the left side of the abdomen dependent on a smooth, firm, clearly defined, and non-sensitive tumor, extending from half an inch to the left of the umbilicus and under the lowest ribs toward the lumbar region. Its lower border was on a level with the anterior superior spinous process of the ilium; and the whole tumor could be pushed up several inches toward the region normally occupied by the spleen, but in other directions was only slightly movable. No notch could be felt. Placing the patient on the right side, with the left arm over the head, I found marked dullness on percussion over the tumor, and full resonance over the splenic region. No difference could be detected between the lumbar regions of the two sides in the back by palpation or percussion, either when the patient was in the erect posture or when he was lying on his belly. No enlargement of lymphatic glands, and no apparent anæmia. His bowels had acted freely and regularly of late, and I made the diagnosis of enlarged and floating spleen. Dr. E. G. Cutler, of this city, kindly examined the

¹ Read at the Annual Meeting of the Massachusetts Medical Society, June 11, 1878.

man at my request, but without knowing my opinion of the case, and arrived at the same diagnosis. At Dr. Cutler's suggestion, Fowler's solution was ordered, with the idea of attempting to reduce the size of the organ, but the patient did not follow up the treatment. He has been regularly at work at his trade ever since, without a moment's inconvenience, but still has his tumor, which, however, seems to have contracted some adhesions, as it is now but very slightly movable.

Except for the lack of any sufficient exciting cause, the history of the case would indicate that the dislocation occurred suddenly; and the enlargement may date back to his residence in the western part of the State, although he was not conscious of having absorbed the malarial poison.

The spleen is subject to various displacements: it has, for instance, been found within the left chest, in cases of congenital defects and of perforation of the diaphragm; without the abdominal wall, in cases of fissure and of large umbilical herniæ; in cases of transposition of the viscera, it occupies the right side of the body; it may be forced out of its normal position by enlargement or distention of neighboring parts, such as very great effusions into the left pleural or the peritoneal cavities, or by abdominal tumors. Lying as it does immediately beneath the diaphragm, it descends somewhat on forced respiration, and when it is sufficiently enlarged to reach the margin of the ribs, this respiratory change of position is appreciable on palpation. Under the term "floating" or "wandering" spleen, however, I would include those cases, and those only, in which the *whole organ*, whether enlarged or not, has escaped from its normal position, the ligaments which held it in place being elongated or ruptured. However low down into the abdominal cavity, or however far toward the right side an enlarged spleen may extend, it cannot be characterized as "floating" as long as its upper part occupies the normal situation of the organ.

According to Morgagni,¹ the first recorded case of floating spleen is that of Baillou, 1578; and between that time and the present day, after a pretty thorough search of the literature of the subject, I have found fifty-one cases, more than half of which are so lacking in details that I abandoned the idea of tabulating and analyzing them, as I had at first intended doing. Morgagni¹ finds ten cases recorded up to his time, but says he never met with a case himself, and upbraids Van Swieten for not having taken the trouble to give any details as to two cases which he said that he saw. Küchenmeister,² who published a monograph on this subject in 1865, gives Piorry the credit for having first made the diagnosis during life, all the previously reported cases having been first observed in the dissecting or post-mortem room. Dietl³ put the second

¹ De Sedibus, etc., epist. xxxix.

² Die Wandernde Milz, Leipzig, 1865.

³ Wien. Wochenschrift, 1854.

case on record in 1854; in January, 1856, Tebault,¹ of Virginia, published two cases, the first which I have found recorded in America, and in the same year Dietl published several others. Since then, cases have been reported from time to time, in most of which the diagnosis was made during life.

Like floating kidney, the affection is much more common in women than in men. Rokitsky,² indeed, states in his *Pathological Anatomy* (edition of 1861) that it occurs exclusively in women, but this is a mistake. Two of the cases published since 1854, in which the sex has been noted, were in males, my own case and that of Buss;³ and six of the cases reported by the older writers were in males,—in all, eight out of fifty-one cases. Bartholow⁴ reports a case in a man, but the diagnosis seems to me rather questionable, and I have thrown it out.

The two chief factors in the causation of dislocation of the spleen are undoubtedly mechanical elongation of the ligaments by the traction of an enlarged organ, and undue congenital laxity or delicacy of the ligaments. Dietl⁵ and Förster⁶ attribute the condition chiefly to the latter; Klob⁷ and Birch-Hirschfeld⁸ chiefly to the former; while Rokitsky⁹ lays stress on successive attacks of acute enlargement, and consequent successive strains on the ligaments, abnormal length and lax attachment of which act as predisposing causes. I suspect that floating spleens are more common than would appear from the very small number of cases which have been reported, but even if I am correct in this supposition, they still remain very rare in comparison with the wide distribution of the malarial poison in even highly civilized countries, and the frequency of chronic splenic enlargement, of malarial or other origin. Consider, too, the enormous size and weight which the spleen often attains without any other change of position than is necessarily involved in the enlargement, and it certainly does not seem far-fetched to assume that congenital structural peculiarity of the ligaments may often have something to do with the production of dislocation.

The far greater frequency of the condition in females naturally suggests inquiring as to the possible influence of pregnancy. Rokitsky suggests that the relaxation of the abdominal walls, after repeated pregnancies, may favor its occurrence. Of fifteen cases analyzed by Küchenmeister with reference to this point, two were in girls under fourteen years of age; in five no mention is made of previous pregnancies; three

¹ Am. Journ. Med. Sciences, January, 1856.

² Band iii., s. 291.

³ Times and Gazette, November 7, 1868.

⁴ Western Journal of Medicine, March, 1868.

⁵ L. c. and Wiener Wochen., 1856, No. 23.

⁶ Path. Anat., page 823.

⁷ Wochenblatt der Zeit. der Gesell. der Wein. Aerzti, 1869, page 597.

⁸ Path. Anat., i., page 429.

⁹ L. c. and Zeitschrift der Wien., etc., 1860, page 33.

were in multiparæ; and in five the dislocation was said to have occurred either during or following pregnancy. Ullmann¹ reports a case in which the dislocation occurred suddenly while the woman was running; Pirotais,² one in which it seemed directly attributable to the woman's being thrown from a carriage; Kilpatrick,³ one in which it seems to have been the result of the effort of getting into a light wagon; and then there are the cases in males, which show that the rôle of pregnancy is no very important one. Cruveilhier very properly calls attention to the great frequency of perisplenitis, and suggests that this is a protection against dislocation.

The most striking feature in the pathological anatomy of the condition is the change in the ligaments. The organ normally lies with its concave surface and hilus directed toward the right, is attached to the diaphragm by the phrenico-splenic or suspensory ligament, and to the fundus of the stomach by a fold of omentum — the gastro-splenic ligament — which incloses the splenic vessels as they pass in and out behind the upper border of the pancreas. The organ is least movable at its diaphragmatic attachment, and it is this phrenico-splenic ligament which, according to Klob, is the first to feel the traction, become elongated and ruptured; the spleen then falls over forward, lies horizontally in the body with the hilus directed upwards, and depends only from the gastro-splenic attachment and vessels, thus drawing the fundus of the stomach downward by traction on the ligament, and perhaps detaching the pancreas by traction on the vessels. Rotation may then take place, and the pancreas be wound round the vessels, which become more or less diminished in calibre, or even obliterated, causing infarction and atrophy of the spleen itself, and thus contributing toward a spontaneous cure. In one of the three cases collected by Rokitansky from the records of the Pathological Institute in Vienna between 1820 and 1851, the vessels were twisted three times, and the spleen, which was still somewhat enlarged, was distorted in shape, and presented two spots of marked depression on its outer surface, with deposits of lime salts. In another of his cases, rotation of the organ had obliterated the artery and vein; and the spleen was reduced to the size of a goose-egg, and consisted of a cartilaginous capsule, with scattered deposits of bone, within which was a mere mass of detritus traversed by a few fibrous bands. Unless strong adhesions are contracted on the way, the spleen must continue to descend until it reaches the firm support of the pelvis. Rupture of the gastro-splenic ligament is a fortunate thing for the patient, the traction on the fundus of the stomach having been known to result in gangrene of the gastric wall and death.

It is easily conceivable that after rupture of the ligaments and oblit-

¹ Arch. Gén. V., série xii., page 221.

² Gaz. des Hôpitaux, 1874, 84.

³ Boston Med. and Surg. Journ., 1873, ii. page 438.

eration of the vessels by rotation the remains of the vessels also should rupture and the organ float freely in the abdominal cavity, or become almost entirely absorbed. Of the latter, I have found no instance; but Cabrolins is said, by Lieutaud,¹ to have found the spleen lying completely unattached in the abdomen of a man. I have been unable to find the original work of Cabrolins in which he makes this statement, either here or in the library of the Surgeon-General's Office, but give it for what it is worth. I have found reports of no less than four cases, and a mention of one other,² in which a floating spleen caused fatal obstruction of the bowels. In the case of Babesieu³ a portion of the jejunum was compressed against the spinal column by the elongated gastro-splenic ligament and vessels; in the case of Helm and Klob⁴ the lower part of the duodenum was compressed in the same way, though the cause of death was rupture of the stomach; in the case of Bozzi⁵ the ilium and cæcum were the seat of compression, and in that of Coomans and De Cnæp⁶ it was the ilium alone; in the case of Choisy⁷ the particulars are not given. Bainbrigge⁸ reported a case which does not strictly come within the limits of this paper, but is so curious and unique that I will mention it briefly. A groom was admitted into hospital for fracture of the thigh; a few days after entrance he began to present symptoms of intestinal obstruction, and died within a week. On autopsy the cause of the obstruction was found to be a supernumerary spleen which lay in the omentum, had fallen down into the true pelvis, and thus compressed the colon against the brim. The usual seat of a floating spleen is one of the iliac fossæ, more commonly the right; and there, or elsewhere, it may contract more or less firm adhesions to neighboring parts or organs.

Symptoms may be very marked, vague, or entirely absent. In the cases in which the dislocation has occurred suddenly, there has been severe pain in the abdomen, with inability to stand upright; where, on the contrary, it has been gradual, inconvenience may be wanting or very slight; dragging sensations may be felt in the abdomen, or pressure on the bladder and uterus may interfere with their functions. In one of Kilpatrick's cases three abortions followed the appearance of the floating spleen, though the woman had previously borne three children at full term. In one of Tebault's cases the spleen was carried up by the uterus during a subsequent pregnancy into the left hypochondriac region without giving rise to inconvenience.

¹ Voigtel. *Path. Anat.*, Bd. iii., page 142.

² Case of P. Frank.

³ *Allg. Wien. Med. Zeit.*, September, 1877.

⁴ *Loc. cit.*

⁵ *Am. Jour. Med. Sciences*, July, 1847.

⁶ *Canstatt*, 1869.

⁷ *Bulletin Soc. Anatomique*, 8, page 79.

⁸ *London Med. Gaz.*, 1846, page 1052.

The diagnosis of floating spleen should seldom be attended with special difficulty, and is in many cases very easy; complete absence of the normal splenic dullness being of course practically a *sine quâ non*. A case may be imagined with persistent dullness in the splenic region, for instance, local enlargement of the left lobe of the liver, due to the presence of a hydatid cyst, as is suggested by Küchenmeister, but centuries may elapse before any such difficulty has to be met in practice. Even if the splenic dullness be absent, the abdominal tumor should not be decided to be a floating spleen, without excluding floating kidney of the left side, extra-uterine foetation, ovarian disease, fæcal accumulation, and enlarged but not floating spleen; aneurism and cancer should also be added to the list.

As for prognosis, danger to life is threatened only from intestinal obstruction, and from dilatation and rupture of the stomach; which, together, have caused death in seven out of fifty-one cases.

(To be concluded.)

RECENT PROGRESS IN THE PATHOLOGY AND TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.

BY JAMES J. PUTNAM, M. D.

Cerebral Concussion. — It is well known that the prevailing doctrines concerning the mode of production of the symptoms of cerebral concussion, as well as of the lesions sometimes found after death, have hitherto been most unsatisfactorily vague.¹ The latest arguments favored the view that the various centres suffer impairment or loss of function in consequence of mechanical displacement of their elements, and indirectly, from disturbance of their circulation resulting from paralysis of the vaso-motor centres; and the gross lesions (hæmorrhages, etc.) were referred generally to mechanical contusion of the cerebral mass, or to vibrations sent through it from the point of injury. Dr. H. Duret has now reinvestigated the subject, experimentally and clinically, and has given his results in a lengthy monograph of great value, of which only the first, experimental, half² has as yet appeared. If his conclusions are not in all respects satisfactory, they serve at least to place the matter on a basis which makes fruitful discussion possible.

In the first place — drawing in part upon the experiments of Félizet — he states that when force is suddenly applied to any portion of the head, except the crown, the elasticity of the skull allows considerable depression to take place at the point struck, while on the other hand there is momentary bulging of the skull at the antipodal locality. The depressed portion of skull takes the form of a flattened cone, the

¹ For other references to this subject see these reports for 1877 and 1875.

² *Études expérimentales et cliniques sur les Traumatismes cérébraux.* Paris. 1878. 1er fascicule. Pp. 327.

height of which, when a skull is let fall from a distance of seventy-five millimetres only, is about eight millimetres, the radius of its base being about fourteen millimetres. Besides this, a certain momentary increase in the intracranial tension at large is of course induced.

What is the result of these changes as regards the cranial contents? The brain, filling completely, as it does, the cavity of the skull, cannot suffer displacement as a whole, and for the forces at stake it is practically incompressible. Neither, it is claimed, is the brain of such a nature — like a metallic body, for example — that vibrations could readily be set up in its substance, nor indeed have we any reason to think that a simple vibration or shock, by itself, could disturb the functions of the brain cells, any more than it disturbs those of the liver, or the kidneys, or the muscles.

Again, the agency through which concussion acts must be one capable of acting on parts at a distance, since hæmorrhages may occur in and about the spinal cord, even in cases where the head alone is subjected to direct injury. This agency, according to Duret, is as a matter of fact mainly the sudden changes in tension in the lymphatic, and secondarily in the vascular system, brought about in the following manner: the lymphatic fluids of the brain and cord are contained, as is known, in a central reservoir, the lateral and third ventricles, and in various other cavities and channels with which this stands in communication, of which the chief are the subarachnoid spaces at the base of the brain, the fourth ventricle, the posterior cerebellar space, the central canal of the spinal cord, the spinal subarachnoid spaces, and, finally, the larger and smaller lymph channels which permeate the entire brain and organs of sense, accompanying the blood-vessels and surrounding the tissue elements themselves. It is mainly in the walls of the larger of these cavities, and in the adjacent tissues, that the hæmorrhages and other gross changes, in cases of concussion, are discovered after death. At the moment of injury, the skull being depressed, as described (forming the *cône de dépression*), at the point struck, the intracranial tension is suddenly and greatly increased. The brain itself, incompressible as it is, and unable to escape from the skull cavity, suffers no direct injury, — unless the skull is fractured, — except possibly from slight local depression and from the “shock,” strictly speaking, to which allusion has already been made, neither of which probably cause any particular disturbance.

Since, however, the entire contents of the skull are subjected at once to this sudden pressure, the tension throughout the lymphatic system is for an instant immensely increased, the course of the blood inward is checked,¹ and a portion of the cerebro-spinal fluid in the ventricles, ex-

¹ The effect of this increased pressure upon the venous sinuses and large blood-vessels is not discussed; and, in general, it may be said that a more exact and exhaustive analysis of the processes described, from the mechanical point of view, would add to the value of the book.

posing, as this reservoir does, a large surface to the compressing force of the blow, is driven forcibly out toward the vertebral canal, frequently rupturing the membrane which partially closes the fourth ventricle, and flooding the lymphatic system of the medulla.

A moment later the depressed portion of skull rebounds, the intracranial tension is lowered as suddenly as it had been increased, the blood rushes back, and hæmorrhages, especially in the neighborhood of certain of the cavities from which the greatest amount of displacement of cerebro-spinal fluid had taken place, are the result.

The mechanism of the occurrence of interstitial capillary hæmorrhages in the pons and medulla, where they are very frequently met with, is thus described: "In fact, at the moment at which the concussion occurs, two waves of this (cerebro-spinal) fluid are set in motion (downwards), one traversing the cavities within (this part of the brain), the other (from the subarachnoid spaces of the base) following its surface, both directed towards the neighborhood of the medulla oblongata. The arterioles of the medulla spring, as was demonstrated in my *Recherches sur la Circulation des Centres nerveux*, from the basilar artery, and pass from before backwards. The anterior, or peripheral (lymph) wave heightens the tension in the perivascular lymph spaces accompanying these arterioles, and the force of the cardiac contraction, or of the vascular spasm which immediately follows the concussion, is liable to burst these walls of the vessels, and thus give rise to *interstitial* hæmorrhages. Or, in other cases, in which the anterior wave is inconsiderable, and the force of the central wave relatively great, the pressure from that quarter will partially check the flow of blood from the basilar artery into the arteries in the neighborhood of the fourth ventricle, and if a sudden spasm occurs in the main trunk, or if the smaller arteries are paralyzed so that they no longer moderate the force of the blood current, ruptures of capillary vessels naturally result; such is the mode of origin of the punctate hæmorrhages (*sablé sanguin*) whether interstitial or ventricular.

"It is probable, at the same time, that many of these hæmorrhages do not occur until the moment when the pressure is suddenly removed (*moment de la décompression*), a view in favor of which we can adduce experimental evidence.

"If, namely, steady pressure be made at any point on the surface of the brain of an animal, and gradually increased until death results, but few spots of extravasation will be discovered at the autopsy. If, however, such pressure, after having been carried to a point above the arterial tension, is suddenly removed, the substance of the brain will be found riddled throughout with minute hæmorrhages."

The influence of this same *décompression* is also invoked to account for the lesions at the surface of the brain, both at the part corresponding to the point of injury and of the antipodal region. In both cases

these lesions, which consist mainly in hæmorrhages, both interstitial and on the surface, blood mixed with lymph being usually found collected in considerable quantity in the meshes of the pia mater, especially in the depths of the sulci, are believed to have their origin in a sudden local diminution of intracranial tension, which acts for a moment with great force, exactly after the manner of a cupping glass. This local reduction of tension is brought about, on the one hand, by the rebound of the depressed bone at the seat of injury, on the other hand by the formation of the *cône de soulèvement* at the opposite side of the skull.

It is not indifferent, as regards either the anatomical or the clinical result, whether the concussion is the result of a blow struck on the side, on the back of the head, or, on the contrary, on the forehead or crown.

In either of the former cases a portion of the violence of the shock is expended in forming the *cône de soulèvement* at the opposite side, and the symptoms produced are mainly those of disturbance or loss of the functions of the cerebral hemispheres, with but little interference with the respiration, pulse, and temperature of the body, whereas in the latter cases the "opposite side" of the skull being represented by the unyielding structures at the base, the full force of the shock is spent in driving the cerebro-spinal fluid onward towards the cavities within the vertebral canal, and serious injuries are inflicted upon the medulla with its contained centres for the various vital functions (of respiration, etc.).

It will be impossible to give here, even in outline, an account of the important experimental study of the respiration, circulation, temperature of the body, etc., in cerebral concussion, nor of the reflex effects of irritation of the sensitive corpora restiformia and the dura mater, with which the symptoms are often complicated, and we must conclude with the following brief summary of the more important statements.

At the moment of injury there is increase of tension in the lymphatic system, resulting in anæmia of the nervous centres throughout, which is augmented by a reflex vascular spasm, due to irritation of the restiform bodies. Succeeding to this vascular spasm comes vascular paralysis, of longer or shorter duration, sometimes persisting till inflammatory reaction (mainly around hæmorrhages) sets in, and death occurs. At the onset of the *vascular spasm* the functions of the *cerebral hemispheres* are abruptly suspended; the functions of the nervous centres in the *pons Varolii* are usually impaired, causing partial failure of the heart's action and the respiration; reflex tetanic spasms come on, due to irritation of the corpora restiformia and other sensitive tracts. On account of the vascular spasm the arterial tension is high, the pulse full, but slow. This stage lasts but a few seconds or minutes.

During the stage of *vascular paralysis*, somnolence, sopor, or coma come on, but the *hemispheric* symptoms remain otherwise essentially unchanged.

primarily in the muscles of one side to those of the other corresponding, although the cord was not primarily affected; and similar cases are recorded of extension of local anæsthesia or hyperæsthesia to the opposite limb. Then comes the question of limitation to one set of muscles, other muscles supplied by the same nerve being unaffected. Here, again, we are supported by the analogy of other special paralyses. Nor is there anything far-fetched or improbable in the view that for each set of laryngeal muscles there is a separate set of ganglionic centres. Apart from the best known example of opposition of the lateral and posterior crico-arytenoids, there must be constant opposing and balancing movements of each set of laryngeal muscles, to allow of the delicately modulated actions which are constantly performed. This fact alone would suggest the existence of separate though intimately associated centres. Besides the movements in phonation, cough, etc., the vocal cords, as is well known, are slightly separated in inspiration and approximated in expiration, the abductors of the cords being, therefore, more highly specialized than some of the other muscles, and the more probably having even distinct centres. All which considerations render the more likely the view that central disease of the medulla oblongata, or possibly of the pons, was the cause of paralysis, — a view strongly supported by the associated nervous symptoms.

Dr. Sémon, in a communication,¹ says he had not the opportunity of expressing his views during the debate on his case, and would like to make a few comments. He says he does certainly not exclude the possibility of an organic connection between all the symptoms seen in this case; but there are some points in the history and in the progress of the disease which render this connection at least somewhat doubtful, and which seem to him to have been a little too much overlooked.

First, he has to refute a few of the assertions made in the annotation. As far as he knows there are no cases on record in which bilateral paralysis of the posterior crico-arytenoids has been produced by chlorosis and lead-poisoning; but it will be found in the abstract of his paper, published in the last number, that he has observed one case in which the paralysis was without doubt produced by hysteria (the patient being now quite restored to health), and he may add that about a month before his communication several instances of such hysterical paralysis were reported at a meeting of the Berliner medicinische Gesellschaft as having occurred in the practices of Drs. Guttman and Fränkel. So the existence of this kind of paralysis seems to be quite established; but even if it were not, we are not driven at once to look for central lesion as the cause of the laryngeal affection. In fact, this ought to be the last resort, if no other cause could be found, as there is in the thirty-five cases now on record only one in which the post-mortem examination

¹ The Lancet, April 27th.

proved that the laryngeal disease was due to central disorder. This is Penzoldt's first case, communicated in Ziemssen's Cyclopædia, vol. iv. Some points in the description of this case make it even doubtful whether there has not been *general* paralysis of the laryngeal muscles, the adductors being less affected than the abductors. In all the other cases of this paralysis in which the post mortem was made, it was found that it was either due to *local* disorder (perichondritis, compression of the nervous fibres supplying the abductors, etc.), or *nothing but isolated atrophy* of the affected muscles was detected. The latter was the result found in three out of the six post-mortem examinations, all made by careful pathologists. This, as well as the clinical observations in ninety-eight per cent. of all cases which he knows of, seems to show that central lesion is an extremely rare cause of this laryngeal affection.

If he hesitates to acknowledge this cause for the paralysis in the present case, in which other symptoms prove beyond doubt that the patient suffers from central disease, this hesitation is, he hopes, justified by the history and the progress of the different affections. This point seems to him to have been almost completely overlooked. He quite agrees with the writer of the annotation that the other nervous symptoms — gait of the character of locomotor ataxy, numbness in the left leg, occasional incontinence of urine, slight left facial paralysis, slight nystagmus, inequality of the pupils, etc. — are most probably due to a disseminated sclerotic affection of the medulla and the spine (syphilis being with nearly complete certainty excluded). But it must not be forgotten that all these symptoms appeared nearly *two* years after the beginning of the laryngeal paralysis, in the mean time no precedent irritative symptoms having been present. Furthermore, these symptoms of disseminated sclerosis, which have appeared only three months ago, make such rapid progress that a deterioration in the patient's gait and sight is to be observed almost from week to week; while the laryngeal paralysis, which I have watched now for six weeks, is not a bit worse than it was when I first saw it. How is that to be explained? He knows very well that we often observe in these sclerotic affections an arrest for a considerable time; but he ventures to say that there is no case on record in which such an affection had taken *this* course. He will not lay too much stress upon the circumstance mentioned by Mr. Callender and himself, that in a case of central lesion it would be very curious if just those fibres of the vagus alone were affected which supply the laryngeal abductors; for the hypothesis brought forward by the writer of the annotation, that these muscles had perhaps ganglionic centres of their own, is certainly a very ingenious one, and not at all improbable with regard to the strictly opposed functions of the different fibres of the vagus. But even if we grant this possibility, how is the symmetry of the affection to be explained? If it is concluded in the

As regards the functions of the *pons* during this stage, the *respiration* becomes more rapid, then, if the case is severe, again slow. The *pulse* remains slow, but no longer so full, the vascular tone being reduced from paralysis of the vaso-motor centres in the *medulla*. There is complete resolution of the general muscular system.

To the *first period*, made up of these two stages, succeeds the *second* or *inflammatory and congestive period*, induced mainly by the irritative presence of the special lesions of brain substance. The *hemispheric symptoms* persist during this stage also with but little change.

The *pulse*, *respiration*, and *temperature* indicate a febrile reaction, which may end in recovery or in death.

In severe cases death may attend the vascular anæmia of the first stage.

Local lesions of the motor regions of cortex cerebri reveal themselves by localized paralyses, or spasms, the latter sometimes passing by extension into epileptic attacks.

Lesions of the dura mater cause reflex spasms of somewhat different character from those due to irritation of the motor part of the cortex cerebri.

Finally, the closest analogy exists, as regards pathogenesis of symptoms, between cases of shock from *concussion* and cases of shock from ordinary *cerebral hæmorrhage*, the mode of production of *embolic shock* being somewhat different from that in either of the others.

Progressive Muscular Atrophy. — It is well known what an immense stride has been taken within the past few years, due largely in the first instance to the brilliant generalizations of Duchenne and Charcot, towards a more exact pathology of spinal cord diseases.

Something like the following scheme of localization of the primary spinal affections had been quite generally accepted — not, to be sure, without dissenting voices — by pathologists in every country: —

Transverse diffused myelitis (acute and chronic)	{ occupying the entire section of a limited portion of the cord, more or less completely.	
Disseminated sclerosis (<i>sclérose en plaques</i>).	{ Patches of disease situated primarily in the connective tissue, and scattered without regard to the "systematic" grouping of the nervous elements.	
"Systematic" myelitis, mainly affecting the white columns.	Sclerosis of the posterior columns (locomotor ataxy).	{ Its distribution is "systematic," and, probably, it is primarily a primary disease of the nerve elements rather than of the connective tissue.
	Symmetrical lateral sclerosis.	
Myelitis of the gray matter of the anterior cornua.	Poliomyelitis anterior.	{ Ditto, though its pathology is as yet almost purely a matter of inference. Its characteristic symptom is muscular rigidity.
	{ Acute.	
	{ Subacute.	
Amyotrophic lateral sclerosis.	Chronic.	{ Infantile paralysis. Acute spinal paralysis of the adult.
	Progressive muscular atrophy and progressive bulbar paralysis ("labio-glossopharyngeal paralysis").	
{ Not yet thoroughly studied, but believed by Charcot and others to involve at once the lateral columns and the anterior cornua; the characteristic symptoms being atrophy with contracture, beginning in the upper extremities.		{ Often classified as a special form of poliomyelitis chronica, but characterized by the absence of paralysis, except such as is directly due to the muscular atrophy.

It has been placed beyond a doubt that lesions of the ganglion cells of the anterior cornua (whether the larger "motor" cells or special "trophic" cells is not yet known) entail degenerative changes in the muscles to which they correspond, and observers at large, struck by the importance of this discovery, welcomed every new fact that seemed to bear out the theory, without always scrutinizing its credentials with the needful care.

The claims of *progressive muscular atrophy* to be classed among the amyotrophic spinal diseases rested upon a limited number of careful microscopic examinations, made within the past few years, with all the modern precautions, and though a number of cases of earlier date were known to have been examined with negative results,¹ the evidence furnished by them was discarded as probably unreliable. Recently, however, Professor Lichtheim, of Jena,² has reported a case which had been observed with great care during life, where the most minute examination failed to detect any evidences of disease either in the spinal cord or peripheral nerves, the muscles presenting the usual changes. The author dwells on the diagnostic importance of the absence of paralysis apart from that due to the muscular atrophy itself, and concludes that the typical progressive muscular atrophy is a disease of primary myopathic origin (as the so-called pseudo-hypertrophic paralysis is also believed to be even by Charcot himself), the spinal changes, which seem to occur in the majority of cases, being of secondary development.

"*Railway Spine.*" — Case of *concussion of the spinal cord*, with post-mortem examination, reported by Prof. E. Leyden.³

The patient, a healthy man of forty years, was severely bruised, in 1873, by being shaken about in a railway carriage, which had slipped off the track, and was dragged along by the engine for a short distance. His principal symptoms from that time onward were pain in the left shoulder, and paresis of the left arm, both of which continued until his death, though not to the same degree as at first; occasional attacks of pain in the sacral region, and in the back of the neck, and between the shoulders; "girdle-sensation;" until finally, in January, 1876, he had a sudden attack of acute myelitis, which proved fatal. The diagnosis made was myelitis due to pressure of a tumor in the lower part of the cervical enlargement of the cord. The autopsy confirmed the diagnosis, showing the tumor to be the result of chronic peripachymeningitis.

Absence of the Reflex from rapping the Tendo-Patellæ, an Early Symptom in "Locomotor Ataxia." — Professor Westphal⁴ has discovered that the so-called "tendon reflex" which, as is well known, is always or

¹ Archiv für Psychiatrie, etc., 1878, viii. page 522.

² These cases, together with other arguments of considerable importance, were collected in a monograph by Friedreich in 1873. (Ueber progressive Muskel-atrophie, etc. Berlin.)

³ Archiv für Psychiatrie, etc., viii., page 31, 1878.

⁴ Berl. klin. Wochenschr., 1878, No. 1.

nearly always present in health, and is often excitable in an exaggerated form in certain diseases, especially symmetrical lateral sclerosis of the cord, disappears very early in most forms of locomotor ataxia (those where the lumbar enlargement is the part first involved), so that its absence is likely to prove a valuable early diagnostic sign, particularly in cases where the presence of insanity makes the establishment of the diagnosis by the usual means more difficult than common.

Treatment of Sick Headache. — Dr. E. C. Seguin, of New York,¹ has found the prolonged use of cannabis ind., in doses of one third and one half grain of the extract three times daily, of great service in the treatment of chronic periodical "sick headache." It is by no means invariably successful, but in any case it is essential to keep the system for a long time (even months) under its influence.

PROCEEDINGS OF THE ROXBURY SOCIETY FOR MEDICAL IMPROVEMENT.

F. W. GOSS, M. D., SECRETARY.

DECEMBER, 1877. *Spontaneous Rupture of the Plantaris Longus.* — DR. A. H. NICHOLS read the following paper on a case of spontaneous rupture of the plantaris longus: —

Upon the 25th of January, 1869, I was called to see Mr. G. H. H., a merchant from Cincinnati visiting Boston, aged about forty, and somewhat corpulent. It appeared that whilst walking quite briskly the previous forenoon on a rather crowded thoroughfare he received, as he fancied, a severe blow from a brick or paving-stone in the calf of the right leg. The supposed blow was accompanied by a sensation of extreme pain; at the same time he felt something give way at the seat of the injury with an audible snap. So firmly impressed was he as to the precise manner in which the injury was inflicted that he at first made a search for the supposed missile, but finding the ground around him quite free from anything in the shape of a stone, and recalling that an express-wagon had passed him at a rapid rate of speed simultaneously with the occurrence of the accident, he next adopted the conclusion that his leg had been struck by the hub of the passing wheel. Although continuing to suffer considerable pain in the limb, he managed to walk two or three blocks, when he stopped and purchased a cane, with the aid of which he proceeded with still greater difficulty a short distance farther, but at length lost entirely the power of locomotion, and was compelled to call a hack.

The calf of the leg was found upon examination to be quite ecchymosed, the blue discoloration extending from the upper third as far down as the insertion of the tendo Achillis. The point of greatest tenderness was referred to the inner side of the calf at about the junction of the middle and upper third of the limb. There was no perceptible swelling at any part, nor could a depression be felt in the muscular tissue of the gastrocnemius or soleus. The history

¹ New York Medical Record, December 8, 1877.

of the accident and the extensive extravasation of blood made it manifest that a rupture of a muscle had been sustained; while the locality of the pain and the apparent soundness of the larger muscles of the calf indicated that the plantaris was the muscle affected. This explanation was not satisfactory, however, to the patient, who could not be dispossessed of the idea that he had been the victim of a blow or contusion, and to set his mind at ease upon this point additional advice was thought expedient. Accordingly, upon the fourth day after the accident, he was examined by Dr. Morrill Wyman, who independently and unhesitatingly confirmed the diagnosis. The patient recovered the power of walking in about a fortnight, and at the expiration of a month lameness had pretty much disappeared.

The immediate cause of the rupture in this case would appear to have been an involuntary spasmodic contraction of the muscle, induced by over-fatigue, the patient having had occasion to walk, upon the morning of the accident, an unusual distance. It transpired, also, that although he had recently gained in weight he had been leading a life of relative muscular inactivity; hence his muscular system, having thus become atrophied and softened, was rendered more susceptible to the effects of long-continued exercise and fatigue.

The above case, though having occurred some years ago, has seemed worthy of reporting to the society on account of the rarity of the lesion, as well as its singularity. The first mention of the involuntary rupture of muscles that I have been able to find in the English language is contained in an article On the Laceration of the Fibres of Muscles, particularly of the External Gastrocnemius, by James Wardrop, read before the Medico-Chirurgical Society, May 27, 1815, and appearing in the printed transactions of the society for the following year (1816). Mr. Wardrop was in error, however, in assuming that he was the first to place upon record a description of this accident, for a very complete account of the lesion had been previously given by M. Faques in a paper read before L'Académie royale de Chirurgie, an abstract of which appears in the Dictionnaire de Science médicale, published in 1817; while even before that, Callisen, who wrote in Latin, treated of the involuntary rupture of the muscles.

The lesion here described is infrequent, because the power of a muscle is so very great in the living subject that the tendons usually yield before the muscles, and cases are recorded where even the long bones have been fractured by the sudden, forcible contraction of the muscles. Dr. D. W. Cheever, for instance, has reported the case of a young lady in whom the humerus was fractured by the sudden involuntary contraction of the muscles of the arm. Sédillot, whose prize essay is heavily drawn upon by most writers upon this subject, collected twenty-eight cases of entire or partial spontaneous rupture of muscles, and in thirteen of these the rupture occurred at the point of origin in the tendon.

A valuable diagnostic sign in this accident is the fact that simultaneously with the reception of the injury the patient usually experiences a sudden shock, as if from some external agent; and at times, also, a distinct snap is heard. Thus in the two cases of rupture of the gastrocnemius reported by Mr. Wardrop, already alluded to, this feature is particularly marked:—

"CASE I. A gentleman, when crossing a street, stopped quickly to avoid a carriage. At this moment he had a sensation in the calf of his left leg, as if it had been struck with a stone, or by some very hard body swinging in his pocket; and so strongly was he impressed with this feeling that he was surprised when putting his hand in his pocket to find it empty. . . .

"CASE II. A muscular man, forty years of age, when quickly running across the street, felt, to use his own expression, as if he was shot in the leg."

The following cases of rupture of the plantaris are reported in the *Journal de Médecine et de Chirurgie pratiques* for March, 1862, the former occurring in the practice of M. Elleaumé, the latter in that of M. Lebatard:—

"M. F., a banker of Paris, while playing with his children, suddenly experienced an extremely sharp pain in the calf of his left leg. He fell, and was unable to regain his own room without support. . . .

"Mme. Ferraris, the star of the opera, who, while performing in a ballet, experienced a sudden and very violent sensation of pain in one leg, and was obliged to be carried home." . . .

The other characteristic signs of this rupture are, the pain which follows any attempt to move the injured part; the gap or deep indentation to be found at the seat of the rupture (provided the muscle is a superficial one), produced by the retraction of its torn fragments; and finally the discoloration of the skin resulting from the extravasation of blood, but this symptom, like the previous one, will be wanting in case of some of the deep-seated muscles.

According to Erichsen, the muscles which most commonly give way in this manner are the tendo Achillis, the quadriceps extensor of the thigh, the triceps of the arm, the biceps, the deltoid, and the rectus abdominis, the relative frequency of the accident occurring in the order in which the muscles are named. In nearly all the cases on record it appears that the rupture has taken place in middle-aged persons in whom the muscular development has not corresponded with the increase in adipose tissue that is apt to occur about this time of life; hence the muscles having lost in a measure their elasticity and tenacity are, when brought into sudden and severe use, the more easily ruptured. One of the most curious cases falling under this head is that reported by Boyer, in which the violent action of an emetic produced a rupture in the middle of the left rectus abdominis. Instances are cited by Curling, Gray, and others in which the recti abdominis have parted under the influence of violent tetanic spasms, while a cramp in the leg has been known to rupture the gastrocnemius. The sheath of the muscle may sustain a rupture, in which case it may in part project through the gap in the form of a round hernial swelling.

The injury may, upon the whole, be regarded as comparatively trivial, as the ruptured muscles unite without trouble in the course of ten or twelve days.

In the discussion which followed, DR. COTTING said that the late Dr. John C. Warren, in his lectures, used to tell of a man who, jumping upon his horse, broke the plantaris longus. He knew of a patient who, in lifting a heavy weight, broke apparently some fibres of the abdominal muscles. He was partially disabled for years. Reports from clinical lectures of the hospitals seem to speak of rupture of muscles as not very rare, and the results as not serious nor long in reparation.

DR. WILLIAMS remarked that such cases as that reported by Dr. Nichols are never fatal, and so cannot be confirmed by autopsies, their diagnosis must always be a matter of uncertainty. It is very possible that some cases which are considered only to be bruises are cases of muscular rupture.

DR. CAMPBELL stated that whatever might be the case with rupture of muscles, the rupture of tendons is not an unfrequent accident, and is serious in its consequences. He recalled the case of a man who could not walk for a year after an over-strain. He was treated with all sorts of apparatus, — splints, starch bandages, etc., — without improvement. There was no fracture nor injury about the joint. A case of ruptured tendo Achillis, which happened three or four months before, was still under treatment.

DR. NICHOLS said that at the time of the occurrence of the accident to his patient he was at a loss to account for the considerable effusion of blood from a muscle of which the principal part consists of a long tendon; but he was subsequently reminded that the plantaris longus is an extremely variable muscle, and often is made up principally of muscular fibre, while at other times it is mainly tendinous. It may have been largely muscular in the case related. The seat of the pain was distinctly referred to the inside of the leg, the site of the plantaris. If the soleus or gastrocnemius had been ruptured the patient could not have walked as far as he did after the injury. He would acknowledge, however, that there was considerable chance for error in diagnosis.

DR. SEAVERNS thought the extravasation of blood showed itself sooner than one would have supposed from the deep seat and smallness of the muscle. He doubted if the consequences of ruptured tendons were as severe as Dr. Campbell mentioned. He had seen a case of ruptured tendo Achillis recover in six weeks. He recollected that when he referred to the case at a former meeting one of the members had questioned whether the tendon would not have reunited without treatment.

DR. COTTING said he was led to express the opinion that such might be the case from the fact that formerly after tenotomy of the tendo Achillis, in old cases of club-foot, the divided parts could not by any apparatus be kept long enough and far enough apart surely to prevent the ultimate return of the tendon to its original length.

Erythema Vesiculare of Good. — DR. COTTING had recently had a case which used to be so called, or, sometimes, *ignis sacer*. A middle-aged gentleman slipped on his doorstep and bruised his shin bone. This caused but little trouble, and he did not pay any attention to it for several days. Swelling subsequently followed, and two small ulcers appeared over the spine of the tibia. These ulcers were dressed at first with mild ointment, but afterwards the whole swelling was covered with a plaster of Russia salve. When seen by Dr. Cotting on the fourth day after this last application, the whole anointed surface was covered with semi-purulent blisters, as from a too long-continued cantharides plaster. These blisters were relieved of their contents, and the surface was covered with flour, followed two days later with dry flocks of lint. Four days after it was first seen an eruption appeared on the uninjured leg, extending on the outside of the leg from below the knee to the pelvis, and over the pelvis to the outside of the other thigh. This eruption was in patches, and resembled

measles in its general configuration. At the same time the insides of both thighs and the whole of the injured leg were covered with an intensely red, or rather scarlet blush, with here and there an occasional small island of white. The line of demarkation near the sole of the foot on the injured leg was well defined, abrupt, and as straight as though drawn by a rule. The itching and burning, starting at different points at different times, were very intense and almost intolerable, rendering the patient nearly frantic. The eruption appeared nearly all at once, did not spread as erysipelas does, nor was there any swelling or ridge along its border. Its color began to fade on the fourth day, and disappeared five days later. The epidermis peeled off as in scarlet fever, — in dust, scales, and patches of an inch or more square. The lint dressings were continued on the wounds, which drying up and ultimately doing well did not seem to be unfavorably affected by the eruption. Weak lead lotion appeared to answer best in allaying the itching and burning.

The case was remarkable in having no continued disturbances whatever. The patient sat up in bed, ate, drank, read, and slept (except for the burning), and had all his functions performed as normally as in health. Pulse and temperature were not sensibly affected.

DR. WILLIAMS said that he had seen a rash like that described by Dr. Cotting in children from chafing. Dermatologists consider it to be erysipelalous, due to the absorption of matter from abrasions. It produces redness without much constitutional disturbance.

CONGENITAL OCCLUSION AND DILATATION OF LYMPH CHANNELS.¹

DILATATION of the lymph vessels, whether congenital or acquired, has of late years been suggested as the element of essential importance in the origin of many cystic tumors. Where a single trunk is enlarged and varicose, containing a clear, yellow fluid, the idea of a dilated lymph vessel is readily suggested. When large cavities have been met with, single or multiple, unilocular or multilocular, and filled with a watery fluid, numerous theories have been formed as to their method of origin. As such cavities have often been found in certain regions of the body, as the neck, axilla, and perinæum, from which they project in the form of tumors, they commonly have been spoken of as watery tumors (hydrocele, hygroma-cystic tumor) of these regions. Their occurrence is still more general, however, and they may be present in the interior of the organism as well as project from its surface, and may be found in new formations as in original parts of the body. Furthermore, the collections of watery fluid may be so small as to suggest blisters when seen upon the cutaneous surface, or a symmetrical enlargement of the affected portion of the body, when deeply seated, as in the lip, cheek, or tongue.

That all these cavities have a similar method of origin, that they represent

¹ *Congenital Occlusion and Dilatation of Lymph Channels.* By SAMUEL C. BUSEY, M. D., Professor of the Theory and Practice of Medicine, University of Georgetown, etc., etc. New York: William Wood & Co. 1878. Pp. 187.

the dilatation of lymph spaces, is highly probable. With our present knowledge of the structure and distribution of the lymph channels, it is easily conceived how such results may arise.

The varicose tubes, blisters, and larger cysts are sometimes associated with enormous enlargements of the part with which they are connected. Virchow has shown the intimate relation borne by elephantiasis to alterations of and processes occurring in the lymphatic system, and has furnished abundant evidence of the association of tissue growth with the affection of the lymphatics. In such cases the new growth takes place rather in the fibrous tissue of the part in which the radicles of the lymphatics are to be found.

Still another series of hypertrophies of the extremities are to be met with, — giant growths, as they have been called, — where there is no direct evidence of an alteration of the lymph system, but which may conveniently and temporarily be grouped under the term elephantiasis, from the extreme deformity resulting. The fibrous tissue of the affected extremity is not so much altered however, as the fat and bone. Indeed, the deformity is rather to be regarded as an excessive formation of all the tissues of the part concerned than as an irritative or inflammatory process in the fibrous tissue.

In the present volume Professor Busey has collected sixty-eight cases which include elephantiasis associated with dilated lymph vessels, the elephantiasis arabum, pachyderma-dermatolysis, and cutis pendula of various authors, also the instances of hypertrophied extremities without apparent alteration of the lymph system. He has added the cases of macroglossia and macrocheilia recorded by Virchow and Billroth, and numerous reports of lymphangioma and lymphanglectasis. His attention was drawn to the subject by the occurrence of a case in his own experience, and he has made most commendable use of his proximity to the National Medical Library to obtain abstracts from the original reports of most if not all of these cases.

Such a work is beyond criticism. One can but admire the enthusiasm, patience, devotion, and disinterestedness displayed in a labor of this sort. The value of the book can hardly be estimated as it represents a book of reference almost wholly intended to save time. There is no doubt that many a seeker will have occasion to be thankful to the author for the information given, and the suggestions made.

R. H. F.

GYNECOLOGICAL TRANSACTIONS.¹

MOST excellent taste is displayed in the simple but effective dress in which the Transactions appear; and the quality of the contents of this volume is quite in harmony with the impression which is derived from the general inspection. Fruit is not always picked by the hand that plants, but it is certainly the privilege of the founders of this society to reap a harvest that is both early and rich. The book carries its own proof of an origin in a body at once dignified and intelligent, earnest and industrious. Its publication will give some indication of the wide range of interesting subjects to which gynæcology

¹ *Transactions of the American Gynecological Society.* Volume II. Boston: Houghton, Osgood & Co. 1878.

may properly turn its attention, and will elevate that specialty in the estimation of the profession. It will help to establish the necessary distinction between the true gynecologist, scientific, liberal, progressive, and the practitioner who, with narrow views, and selfish, rigid methods of thought, expends all his energy upon the treatment of the *uterus*, that organ whose innocence has not always prevented it from being the victim in the execution of an unjust judgment.

In the full discussions which are reported may be found the best possible review of the several papers to which they are appended. The words of the various authors, in the statement of fact or the expression of belief, fall with all the force of the living voice upon the quick and ready ears of competent critics, from whose decisions we are not disposed to appeal, whether they commend or challenge the language to which they listened. Still further, the discussions have a great value for the reason that there is so much which belongs to medicine, that simply represents the balance of conflicting opinions. "We have yet to determine what the truth is, in regard to many of the most important points, on which, every day, the profession is called upon to decide and act."

Dr. Barker is to be thanked for the spirit of generous conservatism which pervades his excellent address. The adoption of his sentiments will assure the safety and strength of the society. The report on the corpus luteum will be eagerly read by all who have any interest in physiological matters, and is a timely and invaluable contribution to the literature of forensic medicine. So many years have elapsed since Dr. Dalton made his first investigations that the subject is not new to him. Yet his recent studies come to us with a delightful freshness.

Dr. Skene makes some very useful suggestions, by the aid of which the obstetric operations, which the sense of touch has hitherto performed in darkness, may now be done in the light, under the guidance of the eye. The admonitions of Dr. Lusk respecting the use of chloroform in labor are well stated and well explained, and will be most cheerfully received in the city which first witnessed a complete, certain, and safe anæsthesia.

The subject of normal ovariectomy, as described by Dr. Battey, is briefly discussed in the president's address (page 39) with due delicacy and fairness. His heroic remedy suggested as a radical measure can find favor for the present only at the hands of radical men. Boldness rather than ingenuity is its striking feature. Although it implies a good deal of violence to many ideas that are firmly established in the medical mind, yet it is neither safe nor proper to condemn it without a patient hearing of its claims, for progress in science is often simply a process of correction. The duty of its friends and advocates is a difficult one; they must prove the inefficiency of other methods of treatment in these cases for which they propose this operation, and must then demonstrate the safety and efficacy of the operation itself. These things done, the question of the acceptance and recognition of this novel procedure may be submitted to the profession.

The cordial tribute to the memory of Dr. Buckingham will be appreciated by all who knew the sterling qualities of his character, and admired his loyalty to the profession.

The copious gynæcological index, which forms a portion of the volume, has a self-evident value, and is the certificate of uncommon interest and industry on the part of some devoted member. It is not possible, within the limits of a short notice, to do full justice to a book that touches so many topics. We accept it as an undoubted acquisition to medical literature, and bespeak for it a careful perusal. If the society shall realize the promises which are contained in the favorable auspices under which it has commenced its labors, and if in the performance of its annual work it shall continue to receive assistance from the large experience and full maturity which have thus far lent their aid, it will lead one branch of medical thought, it will become the authority in one department of practical medicine; its transactions will be a professional benefaction.

A. H.

COMMITMENTS TO INSANE ASYLUMS.

THE case of Captain J. P. Holm, who was sent to the McLean Asylum last week, has received much notice in the papers, and has become a proper subject for public comment. Captain Holm, of Malden, is a man sixty-two years of age, has had a shock of paralysis, and, as his family allege, has shown signs of mental derangement for some time. In order to prevent his intended departure from the country he was examined by Drs. Walker and Rowe of the Boston Lunatic Hospital, and with the concurrence of proper legal advisers was sent to the McLean Asylum. Some of the business acquaintances of Captain Holm, having seen no evidence of insanity themselves and knowing that property matters were necessarily affected by the transaction, became suspicious that the family were actuated by some improper motive, and took steps to have the matter investigated. We do not propose to discuss this case in detail, as it will be examined before a proper tribunal unless the parties in interest come to a mutual understanding without. We may add, however, that Dr. Sullivan, of Malden, now in Europe, had been his family physician for twenty-five years, and advised the family of his insanity before leaving home.

Cases like the above must, in the nature of things, now and then occur. Insanity will often come on insidiously, and manifest itself in the home conduct and family relations before it is observed by acquaintances and business friends. The emergency will also arise when summary action is justifiable. In case of threatened or actual violence this may happen, but equally so when the patient threatens to leave his home or the country, or when he is squandering his property or giving away money, or making business transactions which impose on the public. A fortnight's notice is required in an application for guardianship, which process would apply in many of these cases if a hearing could be obtained at once.

A case similar to the above occurred last year, when an old gentleman, insane, but not decidedly dangerous, was about to start for Australia with a large part of his personal property. He was arrested at the station, examined by Dr. Fisher and the late Dr. Tyler, and sent to the McLean Asylum. His business friends, all most respectable and intelligent men, suspected his children of improper motives, as they had observed no insanity in the case. After

a full hearing before a judge of probate his insanity was established, a guardian appointed, and the patient allowed to go at large. The fate which his family dreaded soon after befell him. He died alone, in a fit, on board a St. John's steamer.

We believe the laws in regard to the commitment of the insane are at present sufficient to prevent injustice, and certainly are sufficient to prevent its long continuance by detention of improper cases in our asylums. There are two methods of admission known to the law, one for private patients on a permit of trustees, bond, and certificate of two physicians, who are bound to make both "personal examination and due inquiry," and one for public cases by application to a judge of probate, in which case the certificate must be sworn to, and sometimes evidence given. We believe that in all counties but Suffolk a notice is served on the patient to be present at a hearing if he desires. In Suffolk County there are so many poor and homeless insane, many of them being picked up by the police, that any delay in getting them to comfortable quarters in a hospital is a hardship, and a special court would be occupied much of the time if any large number should have formal hearings. The patient can, however, claim a hearing, and whenever he does so, or whenever in the opinion of the examining physicians he ought to have one, he has it. There are several methods of redress for the patient on arriving at the hospital. He can write to counsel, and have his case brought up on a writ of habeas, or to any friend who can petition the supreme court under oath, setting forth that in his opinion the patient is not insane. Upon this petition the judge will appoint three commissioners to examine him. If in a state hospital he can appeal by means of the letter-box in each ward to the board of State Charities, whose duty it is to examine him. It is incumbent on every superintendent at once to notify any relatives whose names he can obtain. To make the laws more stringent would work great harm to the insane generally, who require hospital treatment. It is seldom, if ever, that persons not at all insane are sent to hospitals. Sometimes relatives are too easily alarmed by demonstrations of violence, and now and then may take advantage of existing mental disorder of a mild form to relieve themselves of a burden they ought to have borne. In every case the public should learn to wait calmly for a full statement of particulars before judging, and the relatives of an alleged insane person should invite a judicial examination of the case *before* seeking his admission to a hospital, whenever it is likely to be required at all, as the odium of a hasty and unwarranted commitment would fall heavily upon them. The public is more ready to believe in badness of motive with which it is familiar, than in obscure forms of insanity with which it is unfamiliar. Well meaning persons who interfere in family matters should remember that it is worse to impute base motives to respectable persons than to allege insanity on evidence of a private nature, or to act without taking the public into one's confidence. We learn that Dr. Jelly, after nine days' close observation of Captain Holm, is clearly of the opinion that he is insane, and unfit to take care of his person or property. An application for a guardian has been made, and a hearing appointed for September 3d.

DR. WOODWORTH'S VIEWS ON YELLOW FEVER.

IN view of the rapid spread of this disease and its reported appearance at Cincinnati we publish the following remarks, taken from a circular issued by the Surgeon-General to the Marine Hospital Service : —

The weight of scientific evidence seems to warrant the conclusion that yellow fever is produced by an invisible poison capable of self-multiplication outside of the human organism, which it enters through the air passages. The poison-germ or miasm is a product of the tropics. In this country, yellow fever has prevailed in most of the Gulf and Atlantic cities, and in many of the towns along the Mississippi River. In some instances it has been carried inland with the people fleeing from infected localities, but it has never shown a disposition to spread epidemically at points remote from the continuous water-roads of commerce, or to lodge in high, salubrious places. The cities of the Great Lakes have always been free from the disease. Yellow fever cannot be said to be endemic in the United States, from the fact that in some years it does not appear, though the imported germ undoubtedly survives the mild winters. It appears to have about as much resistance of cold as the banana plant. When the banana stalk is killed down by the frost, the yellow fever does not recur until again imported. The germ is transmissible. It is capable of being transported in the clothing or personal effects of passengers and sailors, but its spread from one city to another is chiefly accomplished by vessels, — their damp, filthy holds and bilge water being its favorite lurking places. Confinement, moisture, and high temperature favor the multiplication or virulence of the poison. When a wharf or spot of ground or a house becomes infected, the poison at once commences to spread, creeping slowly in all possible directions, continually enlarging the area around the centre of infection unless checked by disinfection, as has undoubtedly been done by the use of carbolic acid in New Orleans in former outbreaks. Yellow fever is not communicated from the sick to the well ; the sick and well being dangerous only as possible carriers of the poison-germ or miasm. In support of this assertion it may be stated that at quarantine hospitals where the effects of yellow fever patients are burned, or otherwise thoroughly disinfected before the admission of the patients, the attendants do not contract the disease. This has been demonstrated many times. All well persons whose effects have been disinfected may be considered harmless after six or seven days have elapsed from the time of leaving an infected district or vessel, as the period of incubation of the disease lasts from two to six days. This simplifies the question of quarantine — absolute land-quarantines being deemed impracticable — and indicates the direction of preventive measures to the vessel, cargo, or the locality, if the poison have found lodgment on shore. A vessel may escape infection if kept clean and dry, and if all parts capable of being closed are frequently subjected to the fumes of burning sulphur, and the men employed on board are compelled to bathe and change their flannels daily and not allowed to sleep on deck or in the hold of the vessel. There is an example of a ship trading between Havana and New York, upon which these precautions have been enforced for a period of twelve years, and not a single case of yellow

fever has occurred on board. Though not sufficiently demonstrated to state as a fact, still there seems good reason to believe that much may be accomplished by individual prophylaxis — by the use internally of small doses of sulphate of quinia at regular intervals, and of tincture of iron and chlorate of potassa. As the poison enters the system through the air passages it has been suggested that the nasal passages be bathed frequently with a solution containing quinine, to be applied by means of a nasal spray.

MEDICAL NOTES.

— We call the attention of our readers to the slip prepared by Dr. F. H. Brown, and published by the American Metric Bureau, Boston, Mass., which has been furnished with this number of the JOURNAL. All those who desire to discard the present system and adopt the new one will find this little table a useful addition to their pocket-book. It gives a clear, concise, and practical illustration of the decimal system so far as every-day medicine is concerned. It is intended to cover the whole ground. The advantages of the system are shown in a few short paragraphs. Tables for determining values and for conversion, a prescription written metrically, and the proper doses of the drugs most frequently used are given. The slip will be sent gratis to any one making application for it to the Bureau. The energy with which this work has been pushed by the gentlemen having it in hand is deserving of praise.

— From a report of the autopsy of the late Dr. George W. Gay made by Dr. A. T. Cabot, we learn that death was caused by œdema of the lungs resulting from mitral disease of the heart. This organ was slightly hypertrophied, particularly on the left side. The edges of the mitral valve were thickened, and the chordæ tendinæ were much stouter and shorter than normal, producing a marked insufficiency. The vessels of the lungs were carefully searched for emboli, but none could be found. Apart from a certain amount of congestion the abdominal organs were healthy excepting the left kidney, which contained three small calculi, and was in a state of parenchymatous and interstitial nephritis.

— The McDowell monument, about to be erected at Danville, Ky., will consist of a shaft of granite, thirty feet high. The style will be Doric. On its base is the following inscription: "Beneath this shaft rests Ephraim McDowell, M. D., the father of ovariectomy, who by originating a great surgical operation became a benefactor of his race, known and honored throughout the civilized world." On the right side of the base is a laurel wreath, with the inscription, "A grateful profession reveres his memory and treasures his example." On the left side is an historic inscription, with the date of his birth, attendance at the University of Edinburgh, and his first ovariectomy in 1809. On the posterior face is the inscription, "Erected by the Kentucky State Medical Society, A. D. 1879." An "ovarian jubilee," says the *Detroit Lancet*, is expected at the next annual meeting of the society.

— Dr. Matthews Duncan will probably be the next president of the London Obstetrical Society.

SHORT COMMUNICATIONS.

A CASE OF GANGRENOUS INFLAMMATION PERFORATING THE INTESTINE, FOLLOWED BY RECOVERY.¹

BY JEROME WILMARTH, M. D., UPTON, MASS.

H. C., aged twenty-nine, always enjoyed good health until his present sickness, except that he was conscious of something like a weakness in the right hypogastrium, which would occasionally pain him, but had never made any serious inconvenience, nor had it interfered with his doing full work, which for the past several years had been blocking hats in winter and making boots in summer.

On December 14, 1877, he ate of fresh pork and mince pie. On the same day he worked two or three hours turning a grindstone, which seemed to produce some uneasiness in the afterward affected part. Two days later he came home from Milford in the evening, feeling chilly. Very soon after this he felt severe pain in the abdomen, beginning in the right hypogastric region, where it was the severest. There was also fullness, tenderness, and dullness on percussion in the latter locality. The pulse was 84, the temperature 101.50° F. I applied acetic cantharidal vesicant, which blistered well, and gave but little relief.

December 22d. The pulse had risen to 90, the temperature to 102.50° F., and the general appearance of the patient indicated that something of a grave character was at work, with a very threatening aspect, the precise nature of which was not fully apparent. Great restlessness and debility seemed to be prominent symptoms, which were combated by the use of quinine, hydrate of chloral, milk, and beef tea. These conditions subsided somewhat only to reappear with greater force, and on December 24th an erysipelatous inflammation appeared, being most intense in the right hypogastric region, extending over half of the right lumbar region above, and down inside of the right thigh, involving also the scrotum. This was succeeded by a gangrenous appearance beginning at a point just below Poupart's ligament, near or at the external ring. The pulse now rose to 116 and the temperature to 103° F. An abscess rapidly formed, pointing at and breaking through the external ring (one A. M., December 27th), discharging freely fetid water and pus. From this point the gangrene extended until it covered a space in the right hypogastrium five or six inches long and from one to three inches wide, and also extended to the scrotum, until about two thirds of the outer integument was destroyed.

On the 4th of January, 1878, a mass which I thought to be of the omentum, the size of a large hen's egg, passed through and out of the external ring in a gangrenous condition, followed by half a pint or more of pure pus. From this opening pus, occasionally mixed with blood, continued to ooze two or three weeks.

On the morning of January 13th I discovered a faecal ball the size of the meat of a filbert in the hollow of the external ring. On removing the ball there appeared an opening large enough to allow the ball to pass to or from the intestine. The nurse said one other ball of similar size passed out of the opening during the day. This was all that was ever seen to come.

At this time the patient was apparently doing well, and continued to improve without any material drawback until recovery took place.

The discovery of the faecal ball gave rise to the question of its true character, and to be sure of no mistake it was given as thorough an inspection as means at hand would allow.

On being satisfied that it was faecal matter I was surprised to find no other unfavorable symptoms, although careful search was made for them, under the impression that a fatal result was very liable to follow this condition.

The following opinions and accounts of cases gave me courage to hope for recovery in this case.

Dr. Cheever entertains the possibility of cure in his City Hospital Report for 1870. In treating upon perinephritic abscess he uses the following language:—

"It may be urged, supposing a communication already existing between the intestine and the abscess, that there is danger of an artificial anus being the result of surgical interference. Yet in each and all such cases I would advise an operation on the ground that it would be better even to have an artificial anus capable possibly of cure than to die outright

¹ Read before the Thurber Medical Association, May 16, 1878.

or to have years of misery from sinuses, etc." In Hamilton's Military Surgery cases are reported which have a bearing on this subject, although not exactly parallel, inasmuch as his are perforations by gun-shot wounds, while the subject of this paper was by inflammatory process and abscess. Three examples are given (see figure 331) from battles in the Wilderness, in which rifle balls entered the upper part of the thigh, penetrating the viscera of the pelvis. The wounds for a few days gave free exit to fæces, but at the time of writing were closing rapidly. Also for other cases see pages 350, 351, 352, and 353.

Dr. Hamilton says many ingenious plans have been devised from time to time by surgeons for the cure of artificial anus, most of which, no doubt, have their application in certain cases. Yet we must confess that experience has greatly modified our original views as to the urgency of the demand for surgical interference of any kind. It is our present opinion that the majority of these cases get well spontaneously, and not an inconsiderable proportion very speedily, if simply allowed to take their own course; and we believe therefore that in all cases it is best to defer surgical interference for a period of several months at least.

In our case the process of healing went on rapidly and without any drawback. On May 13th the external surface had healed except a space about the size of a thumb nail. The external ring closed in some time before, making a smoother covering, apparently as good as the original.

No surgical interference has been used. The treatment of the gangrene was yeast poultice. After the slough came off we applied bromo-chloralum with a sprinkler and by wet cloths. Internal treatment was supporting and nourishing, such as quinine, wine, with beef tea and eggs, and as recovery progressed solid food, according to the patient's desire within reason. During the sickness, after the opening of the abscess, the action of the bowels was very good. For one or two days micturition was slightly interfered with just before the opening of the abscess; otherwise there was no trouble with that function. No vomiting occurred except during the first two or three days of sickness.

ABSTRACT OF SANITARY REPORTS RECEIVED DURING THE PAST WEEK UNDER THE NATIONAL QUARANTINE ACT.—No. VI.

OFFICE SURGEON-GENERAL U. S. M. H. S., WASHINGTON, August 17, 1878.

NEW ORLEANS. — Since last report four hundred and seventy-one cases yellow fever and one hundred and twenty-one deaths, making a total of nine hundred and two cases and two hundred and thirty-nine deaths, of which one hundred and eight cases and twenty-nine deaths occurred during twenty-four hours to noon yesterday.

PORT EADS. — Thirty-three cases of yellow fever and five deaths during the week to yesterday evening.

GRENADA, Miss. — The first case of yellow fever occurred July 25th. To noon yesterday there had been one hundred and twenty-five cases and forty-seven deaths.

MOBILE. — One death from yellow fever yesterday, — a colored woman, who, it is reported, had been on an excursion to Biloxi, Miss., July 24th.

CINCINNATI. — Since last report a young woman living in a house where baggage believed to be from New Orleans was stored, died of a fever resembling yellow fever. Another case of fever of similar character has since developed in the same neighborhood. Steamer John A. Porter from New Orleans had four deaths from yellow fever before arriving at Cincinnati, which city she passed on Friday bound for Pittsburgh with several cases on board. One man who left the John Porter at Louisville proceeded to Cincinnati by rail, where he was sent to hospital on the 13th inst. with fever. The steamer Golden Rule passed Cairo yesterday evening for Cincinnati, with two cases yellow fever on board. Two deaths occurred on board that vessel Thursday.

Several people from New Orleans and Port Eads have sickened or died of yellow fever on their journey northward; one case at Covington, Ky., one at Cairo, and three deaths at St. Louis.

MEMPHIS. — The first case of yellow fever occurred August 13th, in the person of a woman whose eating-house was frequented by river boatmen. The disease has spread rapidly, but has not yet assumed a malignant type.

VICKSBURG. — Yellow fever has appeared since last report; the first death occurred

August 12th. Advices to noon to-day report the outbreak of the disease near the river front within the last fifteen hours, from whence it is spreading rapidly.

HAVANA. — Ninety-nine deaths from yellow fever and nine from small pox during the week ended August 10th.

CARDENAS AND SAGUA LA GRANDE, CUBA. — No cases of yellow fever during the week ended August 9th.

MATANZAS. — Decrease in yellow fever: week ended August 9th.

CALCUTTA. — Ten deaths from cholera: week ended June 15th.

BOMBAY. — Twenty-five deaths from cholera: week ended June 25th.

Reports received from other places indicate good health.

JOHN M. WOODWORTH,
Surgeon-General U. S. Marine Hospital Service.

MR. EDITOR, — It would be a thankless task to warn the public of the dangerous characteristics of any patent medicine, but cases have recently come to my knowledge in which physicians have prescribed "cuticura" to patients having diseases of the skin, and with very bad results.

Whether suits for malpraxis would lie in such cases it is not for me to say, but it does seem proper to state, as a warning, that the nostrum referred to is a very powerful irritant to the skin, whether this is healthy or diseased.

Thirteen cases of acute dermatitis from the use of "cuticura" have now come to my knowledge, and I have heard indirectly that another physician in this city has had fifteen such cases.

My first case was that of a man having a slight eczema of the fore-arm. He received a simple prescription and departed, but returned in a few days, and there was hardly a hair follicle upon the whole fore-arm which was not the seat of a well developed pustule. General pain, heat, redness, and swelling were also present. He had not used the prescription, but had substituted, upon his own responsibility, the "cuticura." The use of this being discontinued, the patient speedily recovered.

My latest case was seen in consultation. "Cuticura" had been applied to a leg affected with chronic eczema. The result was an acute dermatitis, which had lasted a week at the time when the patient was seen.

At the time of application, a slight itching being felt upon the thigh, a single "wipe" was given across the part with the rag used in applying the "cuticura." The result was an irregular, reddish, hot, painful stripe marking exactly the line of impact of the rag.

Very truly yours,

EDWARD WIGGLESWORTH.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending August 10, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171	560	26.63	23.42	28.71
Philadelphia.	876,118	301	17.86	18.80	21.54
Brooklyn.	549,438	257	24.32	21.51	25.50
Chicago.	460,000	204	23.06	17.83	22.39
Boston.	375,476	180	24.93	20.10	24.34
Providence.	100,000	33	17.16	18.81	19.20
Lowell.	55,798			19.09	22.50
Worcester.	54,937	25	23.68	14.07	22.30
Cambridge.	53,547	31	30.10	18.69	20.83
Fall River.	53,207			21.35	24.96
Lynn.	35,528	11	16.11	20.42	19.67
Springfield.	33,981	16	24.50	16.02	19.77
Salem.	27,140	10	19.16	20.38	21.15